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FARM BUILDING SURVEYS IN WISCONSIN, KANSAS, GEORGIA, AND ILLINOIS

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United States Department of Agriculture, Bureau of Agricultural Engineering, in Cooperation with the Universities of Wisconsin, Georgia, and Illinois, and the Kansas State Agricultural College

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INTRODUCTION

Observations over the past few years made by many individuals of different groups interested in the trend of building conditions on the farm, including farmers themselves, engineers, contractors, and extension workers, have generally agreed that repairs, remodeling, and new construction are not making up for normal depreciation. As no information relative to construction on farms was available, a number of sample surveys were made in order to check up on these observations.

These surveys, covering selected townships in Wisconsin, Kansas, Georgia, and Illinois, were conducted in the spring and summer of 1937 by the Bureau of Agricultural Engineering in cooperation with the Universities of Wisconsin, Georgia, and Illinois, and the Kansas State Agricultural College, in order to show the actual condition of farm buildings and to determine the best approach to the problem of improving the standards of farm structures. In conducting the surveys in Wisconsin, Kansas, and Georgia, a representative township in each of these States was selected and personal visits made to all farms to obtain detailed information on the adequacy, condition, and improvement of farm structures.

The survey made in Illinois differed from those made in the other three States in that only the number and cost of improvements made within the past year and a half were obtained. Two townships were selected for survey and the information was obtained from building-material dealers, contractors, and farmers.

Few people realize how bad the farm building situation really is. Many structures must be repaired at once or they will soon be worthless. Many have already deteriorated to such an extent that they are beyond repair. On the majority of farms, buildings have not been properly maintained since the post-war drop in farm prices in 1920.

The surveys also showed that, despite an increase in farm income, the expenditures for improvements made in these localities during 1936 were not sufficient even to cover current depreciation, much less to repair the effects of the neglect of the past 17 years.

The type and size of structures needed on farms has changed considerably in many sections of the country. For example, in the Kansas township surveyed, farms have increased in size since wheat has proved more dependable there than corn, alfalfa, and livestock. The type of crops grown has changed in other cases, and yields per acre of many crops have increased since the buildings were constructed. As a result there is a great need for replacement or remodeling of many of the older buildings.

WISCONSIN [1]

DESCRIPTION OF AREA SURVEYED

Verona Township in Dane County was selected for the survey in Wisconsin. Dane County is in one of the more fertile agricultural sections of the State. According to the 1933 Wisconsin crop report, the gross annual income per farm in this county was $1,500, which represents an income of $12.40 per acre of farm land. In this respect the county ranks eighth in the State. Eighty-two percent of the gross farm income is derived from livestock and livestock products, of which 48 percent is from the production of milk. Only 18 percent of the gross income is derived from cash crops.

The topography is diversified. In some districts it is gently rolling with considerable prairie land while in others it is rough and hilly. The soil is good, the annual rainfall approximately 32 inches, and the growing season 170 days. Ninety-two percent of the total land area of the county is in farms. Of this, 57 percent is in crops, 35 percent in pasture, and 8 percent is devoted to miscellaneous uses.

GENERAL INFORMATION

The survey of Verona Township covered 133 farms, which were visited individually. It was not possible to obtain complete information about all buildings. In calculating percentages and averages for the various items under each type of building, only the total number of buildings on which information was available was used.

In determining the value of farm buildings the 1936 assessors' records of the value and condition of all farm buildings in the township were used as a guide. The assessed valuations were used in most cases, although the values for farmhouses classed as good were increased approximately 10 percent over the assessed valuation and those of silos were increased by 10 to 30 percent.

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[1] Survey conducted by Max J. LaRock of the Bureau of Agricultural Engineering. Acknowledgment is made of the assistance rendered by E. R. Jones (deceased), E. C. Meyer, and S. A. Witzel of the department of agricultural engineering, University of Wisconsin.

The average size of 124 farms was 132.7 acres. Farms of less than 37.5 acres were omitted from the computations.

On 65 farms where the amount of tillable and nontillable land was known, the average size was 136.5 acres with an average of 103.1 acres of tillable land.

Of 129 farms where the status of the operator was known, 71 percent were owner operated and 29 percent were tenant operated.

Tables 1 to 9, inclusive, give the results of the Wisconsin survey.

TABLE 1.—*Livestock on farms in Verona Township, Dane County, Wis., 1937*

Animals	Farms having stock	Animals per stocked farm	Animals	Farms having stock	Animals per stocked farm
	Number	*Number*		*Number*	*Number*
Horses:			Sheep and goats:		
Mature	121	3.55	Mature	21	9.1
Young	24	1.6	Young	4	10.2
Mules:			Other livestock: Mature	4	3.3
Mature	2	2.5			
Young	2	1.5	Chickens:		
Dairy cattle:			Mature	118	106
Mature	120	18.7	Young	8	245
Young	101	5.9	Other poultry:		
Other cattle:			Mature	32	9.1
Mature	30	3	Young	2	3.5
Young	7	11.1			
Hogs:					
Mature	91	9.9			
Young	50	34			

TABLE 2.—*Classification of farmhouses in Verona Township, Wis.*

Item	Farmhouses of each class		Item	Farmhouses of each class	
	Number	Percent		Number	Percent
Age range (years):[1]			Condition—Continued.		
0-5	1	0.8	Poor	30	22.7
6-10	5	3.9	Unknown	1	----------
11-20	10	8.0	Lighted by—		
21-30	24	18.9	Electricity:		
31-50	48	37.8	Power line	57	43.0
51-70	20	15.7	Private plant	19	14.5
71-90	16	12.5	Kerosene	54	41.0
91-107	3	2.4	Gas	2	1.5
Unknown	6	----------	Heated by—		
Type of construction:			Stoves	87	66.0
Wood frame	117	89.0	Hot air:		
Brick	2	1.5	Piped	23	17.5
Stucco	4	3.0	Pipeless	20	15.0
Stone	6	4.5	Hot water	2	1.5
Masonry and wood frame	3	2.0	Unknown	1	----------
Unknown	1	----------	Water supply:		
Condition:			Piped to house	29	22.0
Good	35	26.5	Not piped to house	102	78.0
Fair	67	50.8	Unknown	2	----------

[1] The average age of 127 farmhouses was 43.25 years.

MISCELLANEOUS DATA ON FARMHOUSES

Additional miscellaneous data on farmhouses shown by the survey follows:

Average value of 131, $1,208.
Average number of rooms, 7.6.
Average number of porches, 1.5.
Farmhouses with cellars, 132.
Farmhouses without cellars, 1.

TABLE 3.—*Barns, grain- and feed-storage buildings, Verona Township, Wis.*

Items	Barns [1]		Granaries [2]		Corncribs [3]		Silos [4]	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Age range (years):								
0–5	2	1.5	2	3.8	2	5.0	7	6
6–10	12	9.0	1	1.9	10	25.0	18	15
11–20	30	22.5	12	23.0	13	32.5	70	60
21–30	40	30.0	19	36.6	8	20.0	22	19
31–50	39	29.0	18	34.7	6	15.0	0	--------
51–70	7	5.0	0	--------	1	2.5	0	--------
71–100	4	3.0	0	--------	0	--------	0	--------
Unknown	1	--------	2	--------	2	--------	11	--------
Type of construction:								
Wood frame	73	54.0	48	89.0	40	95.2	60	47.0
Concrete foundation	14	10.3	0	--------	1	2.4	0	--------
Stone foundation	43	32.0	5	9.2	1	2.4	1	0.8
Tile foundation	1	.7	0	--------	0	--------	0	--------
Stone	2	1.5	0	--------	0	--------	0	--------
Stone and frame	2	1.5	0	--------	0	--------	0	--------
Concrete	0	--------	1	1.8	0	--------	49	38.2
Tile	0	--------	0	--------	0	--------	15	11.7
Concrete and stone	0	--------	0	--------	0	--------	3	2.3
Condition:								
Good	45	33.3	11	20.4	9	22.5	70	54.6
Fair	66	49.0	21	38.9	11	27.5	34	26.6
Poor	24	17.7	22	40.7	20	50.0	24	18.8
Unknown	----------	--------	----------	--------	2	--------	----------	--------

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[1] The average age of 134 barns was 29.6 years. The average value of 135 was $1,162. The average size of 116 was 32 by 68 feet and the estimated average capacity was 30 head of livestock, 45 tons of hay, and 500 bushels of small grain.

[2] The average age of 52 granaries was 27.7 years. The value of 1 was unknown, and the average value of 52 was $158.46. The average size of 51 was 16 by 26 feet, and the estimated average capacity 2,000 bushels of grain.

[3] The average age of 40 corncribs was 22 years. The value of 23 was unknown, and the average value of 19 was $63.42.

[4] The average age of 117 silos was 10.5 years. The value of 2 was unknown, and the average value of 126 was $234.

TABLE 4.—*Poultry houses and sheds, Verona Township, Wis.*

Item	Poultry houses [1]		Sheds [2]		Item	Poultry houses [1]		Sheds [2]	
	Number	*Percent*	*Number*	*Percent*		*Number*	*Percent*	*Number*	*Percent*
Age range (years):					Type of construction—Continued.				
0–5	9	7.4	6	5.3	Stone foundations	1	.8	3	2.5
6–10	21	17.2	16	14.1	Concrete	1	.8	2	1.6
11–20	53	43.5	32	28.0	Stone	1	.8	1	.8
21–30	27	22.1	38	33.3	Tile	1	.8	------	------
31–50	10	8.2	18	15.8					
51–70	2	1.6	4	3.5	Tile and concrete foundations	1	.8	------	------
Unknown	1	------	5	------	Steel	------	------	1	.8
Type of construction:					Condition:				
Wood frame	110	89.5	108	91.0	Good	28	23.0	32	27.4
					Fair	57	47.0	47	40.2
Concrete foundations	7	5.7	3	2.5	Poor	37	30.0	38	32.4
Tile foundations	1	.8	1	.8	Unknown	1	------	2	------

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[1] The average age of 122 poultry houses was 18.6 years. The value of 15 was unknown, and the average value of 108 was $110.

[2] The average age of 114 sheds was 23 years. The value of 3 sheds was unknown, and the average value of 116 was $189.

OTHER FARM BUILDINGS

Information collected on the number, age, and value of other farm buildings follows:

Average age of 78 hog houses, 22.4 years.
Value of 8 hog houses unknown.
Average value of 70 hog houses, $146.
Average age of 27 brooder houses, 10.5 years.
Value of 7 brooder houses unknown.
Average value of 20 brooder houses, $52.
Age of 3 garages unknown.
Average age of 63 garages, 17.4 years.
Average value of 66 garages, $125.15.
Average age of 45 miscellaneous buildings, 21.4 years.
Value of 15 miscellaneous buildings unknown.
Average value of 30 miscellaneous buildings, $97.

TABLE 5.—*Farm buildings in Verona Township, Wis., grouped according to value*[1]

Value range	Farms in each group		Value range	Farms in each group	
	Number	Percent		Number	Percent
$1-$299	0	----------	$1,800-$2,399	19	14.30
$300-$599	1	0.75	$2,400-$2,999	29	21.80
$600-$899	2	1.50	$3,000-$3,999	37	27.80
$900-$1,199	0	----------	$4,000-$4,999	18	13.50
$1,200-$1,499	4	3.00	$5,000-$5,999	9	6.80
$1,500-$1,799	13	9.80	$6,000-$9,999	1	.75

[1] The total value of buildings on 133 farms was $409,120 and the average value per farm was $3,076.10.

TABLE 6.—*Water supply in farmhouses in Verona Township, Wis.*

Source and character	Farmhouses served		Source and character	Farmhouses served	
	Number	Percent		Number	Percent
Wells:[1]			Method of pumping from wells—Continued.		
Dug	7	5.0	Windmill and electric motor	12	9.0
Drilled	112	80.0	Electric motor and gasoline engine	1	.7
Sand point	5	3.6	Unknown	6	---------
Dug and drilled	14	10.0	Quality of water (11 farms):		
Dug and sand point	2	1.4	Good	110	91.0
Method of pumping from wells:			Fair	10	8.2
Hand	15	11.2	Poor	1	.8
Windmill	45	33.6	Unknown	12	---------
Gasoline engine	22	16.4	Quantity of water (133 farms):[2]		
Electric motor	14	10.4	Ample	111	96.5
Hand and windmill	6	4.5	Short	4	3.5
Hand and gasoline engine	2	1.5	Unknown	18	---------
Windmill and gasoline engine	17	12.7			

[1] The average depth of 6 dug wells was 24 feet and the average depth to water 18 feet. The average depth of 133 drilled and sand-point wells was 84 feet and the average depth to the water in 97 drilled and sand-point wells was 61 feet. Springs were recorded on 13 farms.

[2] Of 25 farms where quantity of water was known an average of 415 gallons was used per day.

SEWAGE DISPOSAL

There were 8 septic tanks, 14 cesspools, and 3 improved privies on 133 farms.

TABLE 7.—*Fencing on Verona Township farms*

Condition	Barbed wire[1]			Woven wire[2]		
	Amount		Average value per rod	Amount		Average value per rod
	Rods	*Percent*	*Dollars*	*Rods*	*Percent*	*Dollars*
Good	12,305	21.0	0.45	19,245	39.6	0.87
Fair	37,812	63.0	.30	24,077	49.6	.52
Poor	9,729	16.0	.12	5,290	10.8	.22

[1] Number of farms with barbed-wire fencing, 96. Average number of rods per farm, 623.
[2] Number of farms with woven-wire fencing, 111. Average number of rods per farm, 438.

TABLE 8.—*Farm-building improvements made in 1936, Verona Township, Wis.*

Type	Number	Cost		
		Expenditure in cash	Estimated value of farm labor and material	Total
New construction:				
Brooder house	4	$259	$34	$293
Corncrib	1	18	25	43
Garages	3	720		720
Garage and granary	1	490	230	720
Silos	2	887	25	912
Hen houses	2	600		600
Hog house (portable)	1	20	20	40
Total	14	2,994	334	3,328
Remodeling and repair:				
Farmhouses	23	4,769	811	5,580
Other farm buildings	27	2,045	228	2,273
Total	50	6,814	1,039	7,853
Grand total				11,181

TABLE 9.—*Improvements contemplated in 1937, Verona Township, Wis.*

Type	Number	Estimated cash expenditure	Type	Number	Estimated cash expenditure
New building:			Remodeling and repair:		
Hog houses	5	$1,510	Farmhouses	15	$2,744
Silos	2	890	Other farm buildings	15	2,299
Barns	1	3,000			
Milk houses	2	200	Total	30	5,043
Garages	3	725			
Garage and hen house	1	500	Grand total		12,168
Bridge	1	300			
Total	15	7,125			

KANSAS [2]

DESCRIPTION OF AREA SURVEYED

Halstead Township in Harvey County, south-central Kansas is one of the most fertile agricultural sections of the State. Until recently it was noted for its diversified farming. In addition to wheat, the main cash crop, livestock was produced in considerable numbers. Corn and alfalfa were important crops. For the past 5 years the corn crop has failed and alfalfa acreage has all but disappeared, while wheat has produced abundantly. In the fall of 1937 most of the land was seeded to wheat. From observation, 35 farms were classed as level, 62 farms had from 0- to 2-percent slopes, and 6 farms had from 3- to 5-percent slopes.

The soil is dark in color. Little or no soil erosion was observed.

GENERAL INFORMATION

A total of 103 farms are included in the survey. Information was obtained by personal visits to each farm.

The values given for farm buildings are the estimates of survey workers, based on the age and condition of the buildings, the owner's opinion, and the taxable value of the structures.

Tables 10 to 18, inclusive, give the results of the survey made in Kansas.

TABLE 10.—*Size of farms in Halstead Township, Harvey County, Kans., 1937* [1]

Range in area	Farms in group	Average area	Range in area	Farms in group	Average area
	Number	*Acres*		*Number*	*Acres*
0–30 acres	11	12	201–300 acres	16	234
31–100 acres	12	80	301 acres and over	21	385
101–200 acres	43	163			

[1] Omitting the 11 farms with 30 acres or less which must be classed as farmsteads, the average area of 92 farms is 216 acres. An average of 184 acres was in cropland and 32 acres in waste land or pasture on the 92 farms in 1935.

TABLE 11.—*Farm operators* [1] *in Halstead Township, Kans.*

Status of operators			Average age of operator	Size of family
	Number	*Percent*	*Years*	*Persons*
Owners	37	35.9	57.1	4.3
Tenants	66	64.1	42.5	4.5

[1] Of 103 farm operators, 36 were of German, 15 of Russian, and 52 of English extraction.

TABLE 12.—*Distribution of livestock among farms in Halstead Township, Kans.*[1]

Kind	Farms having stock	Animals per stocked farm	Kind	Farms having stock	Animals per stocked farm
	Number	*Number*		*Number*	*Number*
Horses	86	4.6	Hogs	62	7.3
Dairy cattle [2]	92	6.4	Sheep	11	(3)
Beef cattle	21	16.0	Chickens	96	132

[1] Figures taken from 1935 census of the Kansas State Board of Agriculture.
[2] Only 16 farms had 10 or more cows per farm.
[3] The number of sheep per stocked farm is unknown.

NOTE.—Of 103 farms 87 had tractors and 71 had both tractors and horses.

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[2] Survey by F. C. Fenton, E. D. Warner, and H. E. Stover.

TABLE 13.—*Classification of farmhouses in Halstead Township, Kans.*

Item	Farmhouses of each class		Item	Farmhouses of each class	
	Number	Percent		Number	Percent
Age range (years): [1]			Heated by—		
0–5	1	1.0	Stoves and circulator heaters	91	88.4
6–10	2	1.9	Furnace	11	10.7
11–20	12	11.6	Hot water	1	0.9
21–30	12	11.6	Water supply:		
31–50	59	57.4	Piped to house [2]	33	32.0
51–60	15	14.6	Outside of house	70	68.0
61–70	2	1.9	Cooking by—		
Type of construction:			Electric range	1	0.9
Wood frame	100	97.0	Bottled gas	3	2.9
Brick veneer	2	2.0	Wood range	10	9.7
Stucco over hollow tile	1	1.0	Wood and kerosene or gasoline	89	86.5
Condition:			Refrigeration by—		
Good	41	39.8	Electric refrigerators	5	4.8
Fair	43	41.7	Heat refrigerator	8	7.7
Poor	19	18.5	Ice (commercial delivery)	31	30.1
Lighted by—			Ice (hauled by farmer)	41	39.8
Electricity	16	15.5	None	18	17.6
Kerosene	58	56.1			
Gasoline	24	23.6			
Other	5	4.8			

[1] The average age of 103 farmhouses was 38 years.

[2] Of the 33 houses into which water was piped, 17 used a gravity system, 14 used pressure tanks, and 2 had city water supply.

MISCELLANEOUS DATA ON FARMHOUSES

Average value of 103, $1,395.
Average number of rooms, 6.4.
Average number of porches, 1.77.
Farmhouses with basements, 76.
Farmhouses without basements, 27.

TABLE 14.—*Classification of barns in Halstead Township, Kans.*[1]

Age and condition	Barns of each class [1]		Age and condition	Barns of each class [1]	
	Number	Percent		Number	Percent
Age range (years):			Age range (years)—Contd.:		
0–5	4	3.3	51–60	4	3.3
6–10	3	2.4	Condition:		
11–20	21	17.2	Good	30	24.6
21–30	38	31.2	Fair	55	45.1
31–50	52	42.6	Poor	37	30.3

[1] The average age of 122 barns was 30.77 years and the average value, $440.75. The average capacity per barn of 96 barns in which horses were kept was 8.45 head. The average capacity per barn of 97 barns in which cattle was kept was 14.6 head. The average capacity of bins for small grain in 22 barns was 1,000 bushels.

GRAIN- AND FEED-STORAGE BUILDINGS

Average age of 119 grain and feed storages, 19.7 years; average value, $214; average capacity, 1,744 bushels.

Average total bin capacity on farms on which grain was stored, 2,498 bushels.

Of 119 grain and feed storages 43 percent were in good condition, 41 percent in fair condition, and 16 percent in poor condition.

Table 15.—*Other buildings on Halstead Township farms*

Types	Number	Average age (years)	Average value	Types	Number	Average age (years)	Average value
Hog houses	(1)	24.2	$91	Tool sheds or farm shops	12	35.0	$45
Cattle sheds	20	29.2	93	Garages	40	16.5	121
Machine sheds	45	25.3	131	Milk houses	4	11.0	105
Poultry houses	92	20.2	111	Greenhouses	1	8.0	50
Silos	14	22.0	262	Vegetable cellars (cyclone cellars)	8	35.2	78
Washhouses	8	21.6	35				

[1] The exact number of hog houses is unknown; 19 farms had 1 or more.

Table 16.—*Water supply and sewage disposal on farms in Halstead Township, Kans.*

Item	Farms		Item	Farms	
	Number	Percent		Number	Percent
Type of well: [1]			Sewage disposal:		
Drilled	15	14.5	Cesspools	12	11.6
Driven	88	85.5	Septic tanks	6	5.8
			Outside privies	85	82.6

[1] Practically all farmers reported water of good quality and an ample supply. There were 183 wells, an average of 1.77 per farm. Also 4 cisterns and 2 springs were recorded.

A common arrangement of pumping is by hand pump at the house and windmill at the barn. On 15 farms all pumping was done by hand. A total of 80 windmills, 16 gasoline engines, and 8 electric motors were used for pumping.

Table 17.—*New construction and repairs to buildings in Halstead Township, Kans.*[1]

Item	Number	Approximate total cost	Item	Number	Approximate total cost
New construction:			Repairs:		
Barns	2	$1,400	Addition to house	1	$2,000
Additions to barns	2	500	Repairs to house	2	80
Milk houses	3	475	Repairs to porches	2	150
Hog houses	1	400	Paint houses	3	225
Poultry houses	2	650	Remodel barn	1	115
Brooder houses	1	75	Remodel barn and milk-house	1	225
Cattle shed	1	85	New roofs	5	600
Sanitary privies	3	60	Repaint buildings	5	1,100
Pit silo	1	35	Miscellaneous repairs	2	100
Total	16	3,680	Total	22	4,595

[1] From August 1936 to July 1937, inclusive.

Table 18.—*Improvements contemplated in 1937*[1] *to buildings in Halstead Township, Kans.*

Item	Number	Estimated total cost	Item	Number	Estimated total cost
New house	1	$2,500	Reroof buildings	3	$300
New barn	1	600	Paint buildings	4	800
New granary	1	300			
New garages	3	500	Total	13	5,000

[1] From August 1937 to July 1938, inclusive.

GEORGIA[3]

DESCRIPTION OF AREA SURVEYED

Bucks Branch district in Clarke County, Ga., was chosen for the farm-building survey as fairly typical of the Cotton Belt. Clarke County, located in the north-central portion of the State is primarily an agricultural area, 90 percent of the land being in farms. The land is gently rolling but the soil washes easily and terracing is necessary to prevent erosion. The majority of the farms are general farms although cotton is the principal cash crop.

GENERAL INFORMATION

A total of 173 farms were surveyed. The data were obtained by a personal visit to each farm. The values for farm buildings were based in part on the owner's valuation and in part on the estimated cost of replacement at current prices less depreciation.

The farms averaged 96.75 acres in size, with 44.5 acres under cultivation. Sixty-eight farms were owner operated (9 owner-operated farms have tenants also); 102 farms are tenant operated; and the status of 3 operators was unknown.

The results of the Georgia survey are given in tables 19 to 25, inclusive.

TABLE 19.—*Livestock on farms in Bucks Branch District, Ga., 1937*

Animals	Farms having stock	Animals per stocked farm	Animals	Farms having stock	Animals per stocked farm
	Number	*Number*		*Number*	*Number*
Horses	18	1.61	Hogs:		
Mules	136	1.91	Mature	34	2.32
Dairy cattle:			Young	115	2.7
Mature	136	1.75	Sheep and goats	2	4.0
Young	51	1.7	Chickens:		
Other cattle:			Mature	156	25.85
Mature	13	1.38	Young	77	26.1
Young	7	1.57	Other poultry	7	6.28

TABLE 20.—*Classification of farmhouses*[1] *in Bucks Branch District, Ga.*

Item	Farmhouses of each class		Item	Farmhouses of each class	
	Number	Percent		Number	Percent
Age range (years):[2]			Condition:		
0–5	23	11.5	Good	88	44.0
6–10	6	3.0	Fair	75	38.0
11–20	31	15.5	Poor	36	18.0
21–30	56	28.0	Lighted by—		
31–50	67	34.0	Kerosene	162	81.0
51–70	13	6.5	Electricity	37	19.0
71–75	3	1.5	Heated by—		
Type of construction:			Fireplace	158	79.0
Wood frame, shingle roof	143	72.0	Stoves	23	12.0
Wood frame, metal roof	42	21.0	Fire place and stoves	18	9.0
			Water supply:		
Wood frame, composition roof	7	3.5	Piped to house	18	9.6
Stone, metal roof	1	.5	Not piped to house	181	90.4
Brick, wood roof	4	2.0			
Stucco, wood roof	2	1.0			

[1] In all, 199 farmhouses were included in the survey, some farms having more than 1 house.
[2] The average age of 199 farmhouses was 35.5 years.

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[3] Survey made by J. W. Simons. Acknowledgment is made of the cooperation given by R. H. Driftmier department of agricultural engineering, University of Georgia.

MISCELLANEOUS DATA ON FARMHOUSES

Average value of 199, $540.56.
Average number of rooms, 4.96.
Average number of porches, 1.7.
Farmhouses with cellars, 18.
Farmhouses without cellars, 181.

TABLE 21.—*Barns and grain- and feed-storage buildings, Bucks Branch District, Ga.*

Item	Barns [1]		Grain and feed storages [2]	
	Number	*Percent*	*Number*	*Percent*
Age range (years):				
0–5	32	18.0	5	11.9
6–10	13	7.0	0	----------
11–20	33	20.0	15	35.7
21–30	58	33.0	15	35.7
31–50	36	21.0	7	16.7
51–70	0	----------	0	----------
71–75	2	1.0	0	----------
Type of construction:				
Wood frame, wood shingle roof	106	61.0	28	66.7
Wood frame, metal roof	64	37.0	12	28.6
Log, wood shingle roof	4	2.0	----------	----------
Metal	----------	----------	2	4.7
Condition:				
Good	65	37.2	27	40.5
Fair	64	36.8	17	40.5
Poor	45	26.0	8	19.0

[1] The average age of 174 barns was 27.2 years, and the average value was $109.26. The average capacity of 157 barns in which livestock was kept was 3.37 head; of 127 barns in which hay was stored, 5.38 tons; and of 126 barns in which small grain was stored, 185.66 bushels.

[2] The average age of 42 grain and feed storages was 21.9 years, and the average value was $121.79. 1 building cost $1,200. The average capacity of 19 cribs in which corn was stored was 283.15 bushels, and of 12 grain and feed storages in which grain was stored, 262.83 bushels.

TABLE 22.—*Other farm buildings in Bucks Branch District, Ga.*

Item	Smokehouses [1]		Garages [2]		Cotton houses [3]		Miscellaneous buildings [4]	
Construction:								
Wood frame:	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*
Wood shingle roof	19	76.0	12	86.0	4	80.0	6	67.0
Metal roof	4	16.0	2	14.0	1	20.0	1	11.0
Composition roof	----------	----------	----------	----------	----------	----------	2	22.0
Stone, wood roof	1	4.0	----------	----------	----------	----------	----------	----------
Stucco, wood roof	1	4.0	----------	----------	----------	----------	----------	----------
Condition:								
Good	12	48.0	8	57.0	3	60.0	4	44.5
Fair	10	40.0	5	36.0	2	40.0	5	55.5
Poor	3	12.0	1	7.0	0	----------	0	----------

[1] The average age of 25 smokehouses was 20.2 years; average value, $49.28.

[2] The average age of 14 garages was 18.8 years; average value, $36.97.

[3] The average age of 5 cotton houses was 12.2 years; average value, $96. The average capacity of 4 cotton houses in which cotton was stored is 6.25 bales.

[4] The average age of 9 miscellaneous buildings was 18.9 years; average value, $86.11.

TABLE 23.—*Farm buildings in Bucks Branch District, Ga., by value groups* [1]

Value range	Farms in each group		Value range	Farms in each group	
	Number	Percent		Number	Percent
$1–$299	60	34.6	$1,500–$1,799	6	3.5
$300–$599	39	22.5	$1,800–$2,399	10	6.0
$600–$899	24	13.8	$2,400–$2,999	2	1.1
$900–$1,199	15	8.7	$3,000–$4,999	9	5.2
$1,200–$1,499	7	4.0	$5,000–$5,999	1	0.6

[1] The average value of buildings per farm was $813.

TABLE 24.—*Water supply and sewage disposal, Bucks Branch District, Ga.*

Item	Farms served		Item	Farms served	
	Number	Percent		Number	Percent
Water supply:			Sewage disposal:		
Springs	8	4.5	Septic tanks	9	5.2
Wells [1]	159	92.0	Cesspools	3	1.7
Other	6	3.5	Privy	132	76.4
Method of pumping:			None	29	16.7
Hand	143	90.0			
Power	16	10.0			

[1] All wells are dug wells. The average depth was 36.7 feet; diameter, 4 feet; and depth to water, 31.7 feet. The average amount of water drawn per day was 54.4 gallons. All farms having wells reported an ample supply of good water.

TABLE 25.—*Fencing on Bucks Branch District, Ga., farms*

Condition	Barbed wire [1]		Woven wire [2]	
	Amount	Average value per rod	Amount	Average value per rod
	Rods		*Rods*	
Good	10,675	$0.36	565	$0.48
Fair	11,575	.28	200	.38
Poor	7,015	.22	0	

[1] 104 farms with barbed wire fencing had an average of 246.9 rods per farm.
[2] 11 farms with woven wire fencing, had an average of 69.5 rods per farm.

FARM BUILDING IMPROVEMENTS

During 1936 there was no new construction. Only one farm reported repairs, for which the cash expenditure was $125 and the value of material and labor supplied by the farm was $25.

New buildings contemplated for 1937 consisted of five barns at a total estimated cost of $1,200 and one tenant house at $200. Four farmers contemplated remodeling or repairing their farmhouses at an estimated cost of $1,025. Repairs to other buildings were planned by two farmers, at an estimated cost of $750. The total estimated value for all improvements contemplated in 1937 was $3,175.

ILLINOIS

DESCRIPTION OF AREA SURVEYED

Philo and East Bend Townships were covered in a farm building survey of a portion of Champaign County, Ill. Champaign County in east central Illinois is one of the richest agricultural counties in the State. It contains 988 square miles of which 99.7 percent is tillable land although not all tillable land is cultivated. The land varies from flat to slightly rolling. Corn and oats are the principal crops; wheat and soybeans are also grown. Hogs are the most important livestock.

In 1929, 64.8 percent of the cash farm income came from crops, 15.8 percent from livestock, 11.8 percent from livestock products, 1 percent from forest products, and 7.5 percent from products used by the operator's family.

In 1930, 55 percent of the owner-operated farms were mortgaged, the average mortgage debt per farm was $10,640.

GENERAL INFORMATION [4]

According to the 1935 census there were 123 farms in Philo Township and 116 farms in East Bend Township.

The number of farm building improvements was obtained from building-material dealers supplying these townships, contractors, and farmers, and were checked by personal observation. It is believed that all improvements of any importance are included.

Costs of materials and equipment were obtained from the books of building-material dealers and the expenditure for labor from the contractors performing the work or from personal visits to farmers making the improvements. The costs given for various farm building improvements represent cash expenditures only. The value of materials or labor supplied by the farm is not included.

Expenditures are for the 18 months from January 1, 1936, to June 30, 1937.

Further data relating to the survey in Illinois are given in tables 26 and 27.

TABLE 26.—*Number and cost of new buildings and improvements,*[1] *Philo and East Bend Townships, Ill.*

Item	Philo Township		East Bend Township	
	Building operations	Total expenditures	Building operations	Total expenditures
New buildings:	*Number*		*Number*	
Houses	1	$1,172.00		
Barns	1	900.00	2	$3,100
Implement sheds	4	1,348.00		
Poultry houses			2	276
Brooder houses	6	212.89		
Corncribs			1	650
Garages			1	125
Concrete tanks	1	149.00		
Total	13	3,781.89	6	4,151
Remodeling and additions:				
House	1	308.00	5	900
Corncrib	1	800.00	2	400
Barn			1	150
Total	2	1,108.00	8	1,450
General repairs and painting		7,497.37		4,344
Grand total		12,387.26		9,945

[1] Average cash expenditure per farm during the 18-month period: Philo Township, $100.70; East Bend Township, $85.73.

TABLE 27.—*Average expenditure by groups, Philo and East Bend Townships, Ill.*

Range	Philo Township			East Bend Township		
	Farms on which improvements were made		Average expenditure per farm	Farms on which improvements were made		Average expenditure per farm
	Number	*Percent*		*Number*	*Percent*	
$0–$49	90	73.1	$31.02	97	83.6	$25.77
$50–$99	6	4.9	70.18	1	.9	75.00
$100–$199	12	9.8	140.06	8	6.9	137.40
$200 and over	15	12.2	499.53	10	8.6	627.00

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[4] Survey conducted by Thayer Cleaver and J. R. Dodge of the Bureau of Agricultural Engineering. Acknowledgment is made of the assistance rendered by E. W. Lehmann, head, department of agricultural engineering, University of Illinois.

SUMMARY

Portions of the surveys are shown comparatively in tables 28 to 33, inclusive. The areas are not comparable in all respects, owing to variations in climate, types of crops grown, and construction costs.

TABLE 28.—*Average size of farm and proportion of tenancy on farms surveyed*

State	Farm reported upon		
	Average area	Owner operated	Tenant operated
	Acres	*Percent*	*Percent*
Wisconsin	132.7	71.0	29.0
Kansas	216	35.9	64.1
Georgia [1]	96.75	39.3	59.0

[1] Status of 1.7 percent of farm operators not known.

TABLE 29.—*Age range of farmhouses surveyed*

State	0–5 years	6–10 years	11–20 years	21–30 years	31 years and over
	Percent	*Percent*	*Percent*	*Percent*	*Percent*
Wisconsin	0.8	3.9	8.0	18.9	68.4
Kansas	1.0	1.9	11.6	11.6	73.9
Georgia	11.5	3.0	15.5	28.0	42.0

TABLE 30.—*Condition and average value of farmhouses surveyed*

State	Condition			Average value
	Good	Fair	Poor	
	Percent	*Percent*	*Percent*	
Wisconsin	26.5	50.8	22.7	$1,208.00
Kansas	39.8	41.7	18.5	1,395.00
Georgia	44.0	38.0	18.0	[1] 540.46

[1] The low average value of farmhouses in Georgia is due partly to the fact that the climate permits of less-costly construction.

TABLE 31.—*Age range of barns surveyed*

State	0–5 years	6–10 years	11–20 years	21–30 years	31 years and over
	Percent	*Percent*	*Percent*	*Percent*	*Percent*
Wisconsin	1.5	9.0	22.5	30.0	37.0
Kansas	3.3	2.4	17.2	31.2	45.9
Georgia	18.0	7.0	20.0	33.0	22.0

TABLE 32.—*Condition and average value of barns surveyed*

State	Condition			Average value [1]
	Good	Fair	Poor	
	Percent	*Percent*	*Percent*	*Percent*
Wisconsin	33.3	49.0	17.7	$1,162.00
Kansas	24.6	45.1	30.3	440.75
Georgia	37 2	36.8	26.0	109.26

[1] The wide variation in the average value of barns is due largely to the difference in requirements in the 3 areas surveyed. Dane County, Wis., is primarily a dairy section, whereas considerably less elaborate barns are adequate for the needs of the farmers in both Kansas and Georgia.

TABLE 33.—*Number and value of farm building improvements in 1936*

State and township	New buildings constructed	Total cost of new construction	Total cost of remodeling and repairs	Average cost per farm for all improvements
	Number			
Wisconsin	14	$3,328.00	$7,853.00	$84.06
Kansas	16	3,680.00	4,595.00	80.34
Georgia	0	0	150.00	.87
Illinois: [1]				
Philo	13	3,781.89	8,605.37	100.70
East Bend	6	4,151.00	5,794.00	85.73

[1] Costs given represent cash expenditure only. The value of labor and materials supplied by the farms s not included. Expenditures are for the 18 months from Jan. 1, 1936, to June 30, 1937.

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